CROWDSOURCING TRANSLATION AND THE THREATS/CHALLENGES TO THE PROFESSION: A PORTUGUESE TRANSLATOR'S SURVEY

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Abstract

The increasing research interest in crowdsourcing systems applied to translation, especially combined with MT, when trying to improve the quality of MT outcomes, and the new services provided by organizations such as *Gengo*, *Icanclocalize.com, One Hour Translation, Get Localization* or *Unbabel* are raising a lot of questions and doubts amongst professional translators. In 2008, the localization process of Facebook using fans and volunteer work seemed to turn crowd translation into the next big thing, but it also brought about much controversy amongst professional translators. New business models, assembling paid crowds in the cloud, stem new challenges.

In this paper, after a first reflection on this phenomenon, we will try to answer some of the questions raised by professional translators, based on a survey carried out to understand the main concerns and threats felt by these professionals. Forty-two professional translators, working in Portugal, reflecting a large variety of language pairs, took

part in this survey and revealed a lot of fears, but also some unfamiliarity with this phenomenon.
Finally, we will try to pinpoint the most relevant issues concerning Portuguese professional translators and the crowdsourcing translation process, namely their familiarity, usage and perceptions, using this survey to adjust training to the realities of the market.

Key words: translation, crowdsourcing translation, professional translators, survey, technology and human interaction.

1. INTRODUCTION

The term crowdsourcing was coined in 2006 by Jeff Howe in *Wired Magazine*, but the concept was not new. Howe defined it as "*the act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people in an open call*" (Howe, 2006). The process is collaborative, cooperative and involves cross-organizational networks, and has obviously attracted the interest of academics, but also of business entrepreneurs, who easily grasped the enormous possibilities and advantages of this phenomenon: getting faster, cheaper and creative outcomes

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More recently, Estelles-Arolas and Gonzalez-Ladron-of-Guevara (2012) discussed the definition of the term, and presented an integrated vision of the concept:

> Crowdsourcing is a type of participative online activity in which an individual, an institution, a non-profit organization, or company proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task. The undertaking of the task, of variable complexity and modularity, and in which the crowd should participate bringing their work, money, knowledge, or experience, always entails mutual benefit. The user will receive the satisfaction of a given type of need, be it economic, social recognition, self-esteem, or the development of individual skills, while the crowdsourcer will obtain and utilize to their advantage what the user has brought to the venture, whose form will depend on the activity undertaken.

In this more integrated and extensive approach to the concept, crowdsourcing encompasses the online voluntary participation of the public to the advantage and benefit of several key players.

It was easily expected that this phenomenon would rapidly expand to the translation market and to language service providers. Applied to this context, the concept of

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crowdsourcing has, in fact, drawn the attention of entrepreneurs, especially in a globalized, multicultural and multilingual world where getting faster and cheaper translations is a key factor for business sustainability. The phenomenon of crowdsourcing has also attracted the attention of researchers, exploring their techniques to improve and assess the quality of machine translation, while other studies have tried to investigate the mechanisms of human translation that may be useful to crowdsourcing (Zaidan, Callison-Burch, 2011).

Estelles-Arolas and Gonzalez-Ladron-of-Guevara (2012) help us in this process, listing three questions whose answers are essential to realize the phenomenon of crowdsourcing applied to translation and linguistic services, namely:

(1) About the process: What type of process is it? What type of call was used? Which medium was used?

(2) About the initiator: Who is it, and what does the organization get in return for the work of the crowd?

(3) About the crowd: Who forms it? What does it do? What does it get in return?

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We will try to answer these questions by analyzing the results of a survey applied to 42 professional translators working in Portugal, with professional experience ranging from 5 to 25 years in freelance or translation companies. Finally, we will try to highlight the most relevant issues raised by the crowdsourcing translation process, particularly: (1) how the process of crowdsourcing works; (2) what are the new crowd marketplaces; (3) which are the biggest concerns and issues related to crowdsourcing business models that affect professional translators.

2. CROWD TRANSLATION, COMMUNITY TRANSLATION, CROWDSOUCING TRANSLATION: LOOKING FOR A DEFINITION

Although the concept of crowdsourcing has more than ten years, the definition and the terminology used to describe it, in the translation world, is still confusing and lacks coherence referring, sometimes, to many different phenomena. Austermühl's definition illustrates this ambiguous nature:

> Crowdsourcing in translation generally refers to the translation of user- and community-generated content, or, as Donald DePalma and Nataly Kelly (2008) define

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> it, "translation of, for, and by the people." Designations for this phenomenon vary widely in the literature. Some of the ways in which translation scholars refer to this type of translation include the following: *collaborative translation, fan translation, user-based translation, lay translation, citizen translation, participative translation, volunteer translation, CT3 (community, crowdsourced and collaborative translation), pool translation, hive translation, social translation, Web 2.0 translation.* (Austermühl, 2011:15)

However, Austermühl is not the only one to pinpoint the inconsistency of the terms; a basic bibliography research demonstrates how researchers still don't agree on their terminology use. For instance, Michael Cronin prefers "crowd translation" (Cronin, 2010), Anthony Pym talks about "volunteer translation (Pym, 2011), Minako O'Hagan mentions "community translation" (O'Hagan, 2011), Desilets and Van der Meer use the term "collaborative translation" to refer to "agile translation team ware, collaborative terminology resources, translation memory sharing, online translation marketplaces, post-editing by the crowd, and […] translation crowdsourcing" (Desilets and Van der Meer, 2011: 28-29). More recently, Ignacio Garcia called it "crowdsourcing translation" (Garcia, 2015).

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Garcia elucidates that crowdsourcing translation could be a third way of doing business in translation, in addition to the paid traditional services and the unpaid model, where Machine Translation plays an essential role. He argues that:

> Crowdsourcing represents a third way of handling web-based translation, filling the gap between MT and conventional LSP services. As a first assumption, paid crowdsourcing might occupy the space between the free crowdsourcers and the LSPs. The paid modality would likely outperform its unpaid cousin, offering higher speed (no faltering before the finish line) and quality (no shirking the difficult bits). Conventional LSPs on the other hand would offer higher quality and more guarantees of completion than either crowd option, but on a significantly longer deadline (Garcia, 2015:26)

This definition imposes a distinction: up until now, most of the researchers considered crowdsourcing translation as a non-paid service, executed by volunteers or fans. In line with Garcia, we believe that a distinction must be considered between a paid business model and an unpaid one and that the term *crowdsourcing* is used as an umbrella term to cover different scenarios and crowd workflows.

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In 2008, when *Facebook* challenged users and fans to voluntarily localize the site in more than 75 languages, non-paid crowdsourcing translation became a case study. The project was a success because it was done in record time and involved bilinguals who loved *Facebook* and knew the site better than professional localizers (Garcia, 2010). Rapidly, other social networks like *Twitter* or *YouTube* tried the same strategy. When *LinkedIn* "sent a survey to language professionals to capture their feedback on potential participation in what Common Sense Advisory calls "CT3" -- community, crowdsourced, and collaborative translation, the reaction was overwhelming. Professional translators balked at the request from LinkedIn, posting numerous comments that boil down to a single question, "Why should I work for free, especially for a for-profit company?" The translators' dismay at the situation even led to the formation of a new LinkedIn Group, Translators Against Crowdsourcing for Commercial Business" (Kelly, 2009).

The controversy was set. As we will demonstrate, professional translators have mixed feelings about crowdsourcing translation and the majority sees it a threat to the profession. However, there are still a lot of misconceptions involving the process. In fact, on the one

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hand, professional translators have been participating in several web-based platforms, like ProZ.com or Translators Café, used to bypass agency mediation, but also by agencies and clients. In addition, there are various examples of collaborative approaches to translation. Desilets and Van der Meer (2011: 28-29), enumerate and remind us of the following technologies:

1. agile translation team ware (multidisciplinary teams of professionals-translators, terminologists, domain experts, revisers, managers- to collaborate on large translation projects, using an agile, grassroots, parallelized process instead of the more top-down, assembly -line approach found in most translation workflow systems);
2. collaborative terminology resources (Wikipedia-like platforms for the creation and maintenance of large terminology resources, such as Wiktionary, ProZ's Kudoz forum and the Urban Dictionary); translation memory sharing (platforms for large scale pooling and sharing of multilingual parallel corpora between organizations and individuals, for example, MyMemory, Google Translator Toolkit);
3. online translation marketplaces (connecting customers and translators directly, with minimal

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> intervention by an intermediary). Examples of this include ProZ.com, Translators Cafe andTranslated.net.

4. translation crowdsourcing (Amazon Mechanical-Turk like systems to support the translation of content by large crowds).

3. CROWDSOURCING AS A NEW BUSINESS MODEL

Cloud marketplaces are a totally new paradigm, offering easy access to translation services, for instance, website localization, subtitling, transcription and desktop publishing, to mention just a few. These new platforms seem to accommodate the advantages of paid human translation and the benefits of automated translation, as explained by Garcia:

> A new type of translation marketplaces appeared around 2008, this one unabashedly aimed at serving not translators, but clients. The most innovative combine implementation of a sophisticated platform (similar say to Easyling or PhraseApp described above) with management of the broadest possible pool of *paid* translators. Removing the vagaries of volunteerism gives scope for a growable, scalable offering to exploit an ever-expanding client base. This

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> is achieved not with an instantaneous industrialised process like raw machine translation, but with a service provided by humans. (Garcia, 2015: 23)

This author (2015) conducted a survey on cloud marketplaces, enlisting the most popular ones and giving us important information about prices paid to translators and charged to clients. In our attempts to research further differences and singular characteristics of these platforms, we have encountered some difficulties. While some of them, like *Unbabel*, accepted us as translators or revisers, others argued that they had no interest in our linguistic pair.

Here are a few considerations on the crowdsourcing web-based platforms that we have tried to contact and find out more.

1. *Amazon Mechanichal Turk*: one of the first crowdsourcing systems, launched in 2005 by Amazon. Originally, Amazon Mechanical was not designed for any specific task (such as translation); it was designed to give businesses access to a scalable, "on-demand" workforce. Amazon Mechanical Turk allows registered users to post jobs of any kind and offer rewards

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in exchange for a completed task; these tasks are called human intelligence tasks (HIT) and are usually simple, quick and repetitive. Amazon says the system has more than 400,000 registered workers[1].

2. *Crowdin* appeared in 2009 and it is based in Ukraine; it's a localization project management platform and translation tool for developers and website owners. To date, they offer four sets of prices and packages: Micro for $19USD, Starter for $29USD, Standard for $59USD and Professional for $89USD.

3. *Get Localization* has headquarters in Helsinki and it was founded in 2009. It offers "a simple, easy to use translation service for those who need to translate their app, website or documents fast and conveniently. You pay only for the content you translate. All translators are fully trained and screened professionals".

4. *ICanlocalize* offers professional service through its website where a community of professional translators can register and meet customers. Professional translators must apply to become members of *ICanLocalize*

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[1] See Zaidan, Caillison--Burch, 2011.

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community, and they have to go through a verification process before being accepted. During this verification process, academic certificates are required, which must be uploaded to the system, and rigorous tests are conducted to check the translator's skills. In other words, if a person is not a professional translator, or does not have a degree in translation or foreign languages, he/she cannot even subscribe to the platform.

5.   *Unbabel* is a Portuguese startup, founded in 2013 that aroused a lot of controversy amongst Portuguese translators. They offer translators and native speakers $0.08USD per word and promise translators they can earn between $8USD and $18USD per hour. However, to be paid, translators must undergo many tests and after these free translations, many complain about having received a negative answer[2]. We

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[2] This is one of the answers that a professional translator claims to have received from Unbabel: "Dear ########, we're sorry to inform you have been demoted from Paid to Unpaid editor on Unbabel. Why did this happen? The ratings you received on your most recent 20 tasks indicate the quality of your work is no longer above the threshold necessary to work on paying customers' projects. What does this mean? You do not have access to Paid tasks. What can you do next?

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> have tried it ourselves and we never got chosen to the paid services.
>
> 6. *Gengo* is a web-based human translation platform headquartered in Tokyo. The platform currently draws from a network of approximately 10,000 pre-tested translators working across 34 languages. Translations can be ordered via direct order or API integration.

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1. You can work on free tasks. We recalculate your average rating on a weekly basis, based on the feedback of your last 20 tasks.

2. You can choose to do tasks only into your native language. Read more about language selection in this article on the F.A.Q. https://unbabel.zendesk.com/hc/en-us/articles/202018223-As-an-editor-what-languages-should-I-select-to-work-on.

How do I improve my rating? Post-editing machine translation takes patience and attention to detail to:

> - correct typical machine translation errors, including gender, person and word ambiguity;
> - correct punctuation and spelling;
> - make sure the translation has the same meaning as the original text;
> - make sure the translation sounds natural;

Follow these guidelines and your rating will improve. Why is this important? We offer paying customers machine translation speed with human quality. As a part of the editing community, your responsibility is to make sure the quality of each translation is the best possible.

Thank you for being part of our community.

On behalf of the Unbabel team,"

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4. MYTHS AND FACTS ABOUT CROWDSOURCING: THE VIEWPOINT OF PORTUGUESE TRANSLATORS

For the purpose of this study, a questionnaire comprising 8 questions was developed [3] . It aimed to examine professional translators' awareness of the crowdsourcing process, establishing to what degree translators had participated in the processes, and investigate what their perception of the processes was. It also briefly examined how Portuguese professional translators are adapting to the changing landscape of the translation industry, examining their experiences and perceptions of crowdsourcing translation. Our methodological approach consisted on the development of an exploratory survey, aimed to obtain a preliminary appraisal of this phenomenon, to pinpoint its general characteristics and to identify its categories of analysis or conceptual framework. Among the non-probablistic sampling methods, we used the strategic or judgment sampling (Cea d'Acona, 2004:171).

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[3] The free version of www.surveymonkey.com allows only 10 questions.

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The questionnaire, developed using an open-source tool, was distributed in Portuguese, via a *Facebook* group, called "Tradutores Com Vida". This social media group is a very active and collaborative platform where translators and interpreters discuss and debate pertinent questions about their careers but also help each other by offering solutions to linguistic doubts or other issues. To be accepted, you have to meet one of the following conditions: (1) To carry out a professional activity directly linked to translation, interpretation or other related to the latter, as a freelance or as an in-house translator, working full or part-time; (2) To attend an undergraduate / masters / postgraduate degree in any of the aforementioned areas.

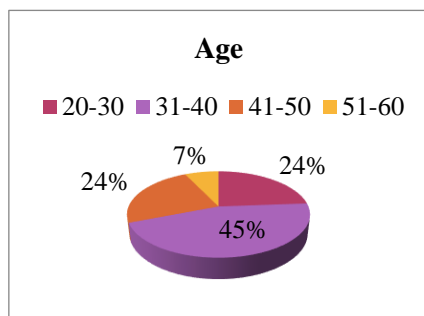The survey was available between June and July 2015 and we received a total of 42 responses.
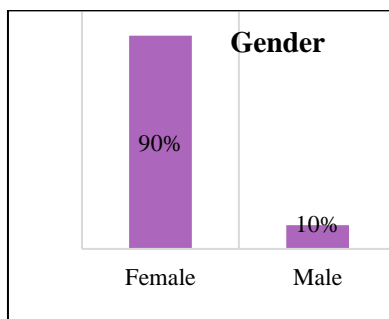

Fig. 1: Age

Fig. 2: Gender

By analyzing respondent's demographics, we can

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conclude that 90% of the respondents were female and a large majority is in their thirties (45%). The other most represented class ages are the forties and the twenties (both representing 24%).

As for professional experience, most of the respondents display a large experience in translation that ranges from 10 to 25 years. Proportionate correlation was found between the age and the length of service in the translation industry, with older respondents tending to have more experience. The sample was predominantly constituted by freelance translators (60 %), followed by some in-house translators (19%). A low percentage of respondents conciliate translation with another activity, such as studying (14%) or teaching (7%).

This survey also wanted to correlate the respondent's academic education to their familiarity and/or knowledge of recent developments in the translation industry, to their perceptions and ability to adapt to new paradigms, especially macro-concepts like web 2.0 or cloud computing.

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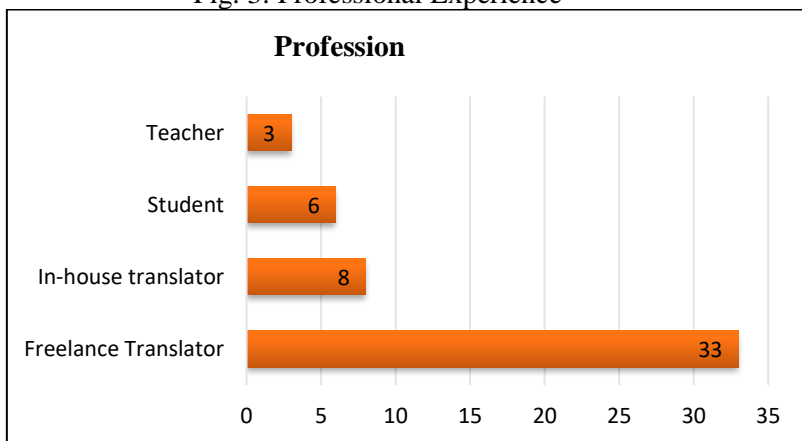

Fig. 3: Professional Experience

Fig. 4: Profession

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Results have proved that a highest academic graduation correlates to a bigger awareness to technology related concepts and the ratio seems higher for younger and with higher qualifications, translators. It would appear that the more specific the concept, the greater translator's expertise, and the higher the awareness Nevertheless, the majority of the respondents has an academic degree, namely a 5-year degree (55%), a Master's (29%), a Post-graduation (12%) and a 3-year degree (4%).
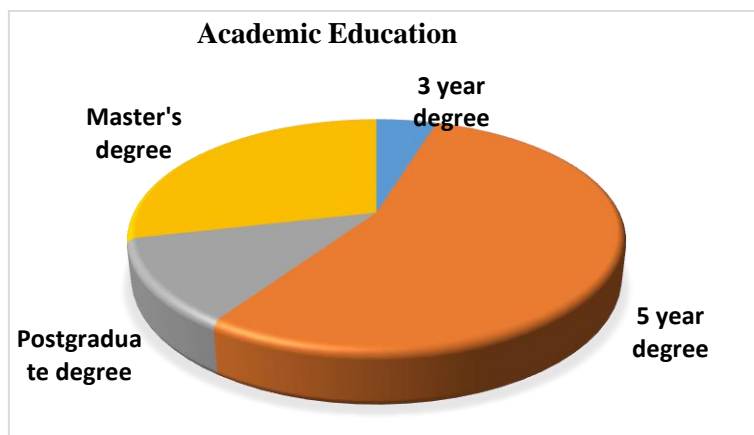

Fig. 5: Academic Education

Only 22% of respondents admit having participated in a crowdsourcing translation project, while the large

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majority (78%) claim never had undergone such a process. These results should be interpreted with some caution, because the open question regarding how translators felt about crowdsourcing reveals some misconceptions. Translators tend to reduce crowdsourcing translation only to the unpaid model and relating it to the *Facebook* project or to *Unbabel*, which they perceive as being a threat to the translation market and as an unfair business model, exploiting workers.

Have you already participated in a crowdsourcing project?

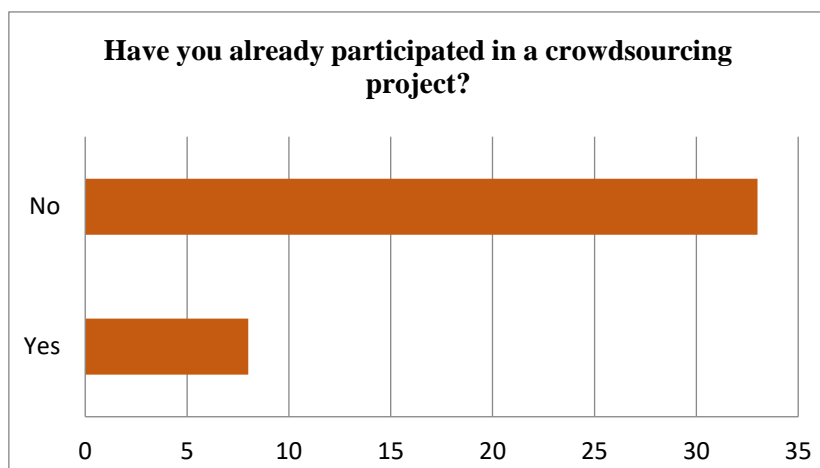|	
No	(bar extends to ~33)
Yes	(bar extends to ~8)

Axis: 0 5 10 15 20 25 30 35

Fig. 6: Participation in crowdsourcing projects

An analysis of translator's perceptions on crowdsourcing reveals these misconceptions and transpires a lot of mixed

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feelings when dealing with such a phenomenon. We believe these misconceptions may stem from various sources, such as a bad personal experience with a crowdsourcing platform, like *Unbabel*, a terminology inconsistency in defining crowdsourcing, like we have noted in the beginning of this article, and especially an unawareness that platforms like *Gengo, ICanlocalize* or *One Hour Translations* are also crowdsourcing systems. One thing is for sure: the sample acknowledges the importance of the subject and just a few respondents reveal lack of interest or indifference to crowdsourcing. In fact, about 5% of the surveyed translators stated that they had no interest whatsoever for crowdsourcing, because they worked for a different segment or because it was just a "fashion". This attitude corresponds to in-house translators with more experience, older and with lower qualifications.

The findings of this survey show that the majority of Portuguese professional translators see crowdsourcing translation as a threat to the profession (60%). They also agree that crowdsourcing reduces translation quality (76%) and by exploring unpaid work, it contributes to the devaluation of translator's work (73,8%). The testimonials given in the open commentary section of this survey emphasizes this assessment[4]. A freelance translator, with 5 to 10 years of experience and a 5-year degree states: "I

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[4] These commentaries where translated from Portuguese.

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think that crowdsourcing is a way of corrupting the quality of translator's work. It takes more than language knowledge and an Erasmus to become a translator…" Another translator, with the exact same profile, argues: "I think that crowdsourcing perpetuates the devaluation of the translator's work, for several reasons: the presentation of these services as something that anyone with some knowledge of two languages can do to earn some extra money; the very low rates (or even nonexistent) paid to the translator; the lack of quality that implies a system based on translation of text excerpts". An older, but less experienced translator even states: "crowdsourcing is a cancer to the profession!"

In terms of benefits and disadvantages of crowdsourcing, Portuguese professional translators reveal mixed feelings; the majority (69%) claims that crowdsourcing translation should not be considered seriously because it is mostly performed by amateurs, while, on the other hand, they consider it to be beneficial to the profession, because it allows the dissemination of information in several languages (65%)[5].

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[5] "They provide easy access to translations in several languages; but by allowing several people to work independently on the same text they make the quality of translations questionable and generate serious inconsistencies; furthermore, sites as *Unbabel* rely on the classification made by the community and on unexperienced volunteers to review and classify translations in languages other than

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As for crowdsourcing combined with MT, Portuguese translators seem to be more divided, when questioned about the improvement of MT quality with the help of crowdsourcing systems. About half consider that MT will never be perfect and they don't see any interest in crowdsourcing models combined with MT. However, and surprisingly, they argue that such a combination increases the quality of MT outputs and, consequently, the quality of translator's work, being beneficial to the profession.

Considering that only a small percentage of respondents had participated in crowdsourcing projects, only a few opinions reveal a higher familiarity with the subject. These testimonies belong to younger, but experienced translators, who had participated in crowdsourcing projects. One of the respondents stated: "the way these companies have emerged and been presented show us that these projects take advantage of the technology bubble to generate quick profit, taking advantage of the anonymity and random nature of the Internet. It's easy to understand how this can be exploited to increase profits and reduce costs, with the aggravating circumstance of market's eagerness to offer the lowest price, not the reasonable price for a top quality." Another one claimed: "I think this "business model" is not entirely wrong; it can operate in a niche market that is not currently, in my opinion, covered by professional translators: the market for small

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the native language." (Freelance Translator, 41-50 years, 5-year degree).

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translations under 100/50 words. I think the best way to prevent the spread of these "Chinese bazaars" of translation is to report their lack of quality and prevent they publicize their services as "professional experts in translation".

Finally, when we asked Portuguese professional translators if they were willing to participate in crowdsourcing projects, half answered an unquestionable "no"; nevertheless, 45% would consider participating, if they were fairly paid and the last 5%, undoubtedly said "yes". These last respondents were less experienced and probably think they could benefit from this type ok work, perhaps to gain experience.
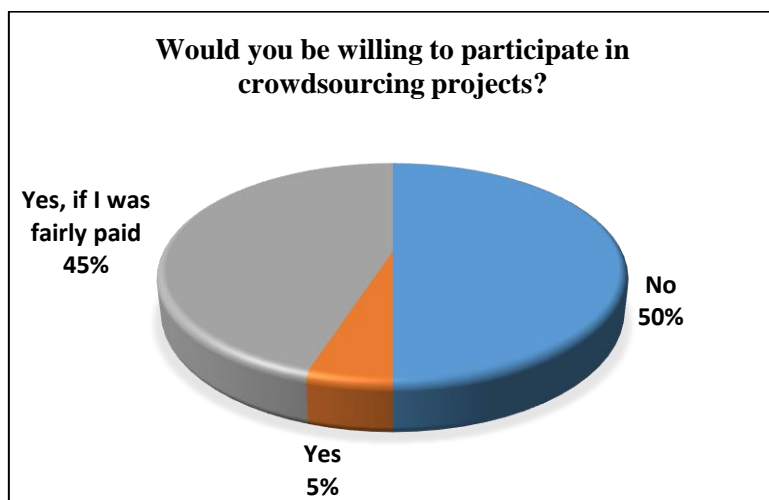
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Fig. 7: Would you be willing to participate in a crowdsourcing project?

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What do you think about crowdsourcing translation?

■ I tottally disagree   ■ I partiallly disagree   ■ I agree   ■ I totally agree

Statement	I tottally disagree	I partiallly disagree	I agree	I totally agree
Crowdsourcing translation should not be considered seriously, because it's not done by professionals but mostly by amateurs.	3	3	14	15
Crowdsourcing translation allows the dissemination of informationin several languages, so it benefits professional translators.	16	11	4	4
MT will never be perfect, so i don't see any benefit in crowdsourcing translation using MT.	5	10	10	10
We can't stop the automatization of the translation process, thus participating in crowdsourcing projects will improve the quality of MT…	15	14	5	1
Crowdsourcing translation combined with MT increases the quality of MT outputs, therefore it benefits the evolution of the profession.	23	9	2	1
Crowdsourcing translation threatens the profession.	3	7	6	19
Crowdsourcing translation reduces translation quality.	1	2	9	23
Crowdsourcing translation explores unpaid work, contributing to the devaluation of translation.	3	3	7	24

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5. CONCLUDING REMARKS

Web 2.0 is really turning into a reinvention of human translation. Terminology enforcement, interactive paradigms, collaborative models, gamification, inclusion of non-native speakers, metrics-driven selection ... the list of new concepts does not seem to stop growing. And translators need to be aware of the nature of this new challenge. If translators have quickly adapted to CAT tools and to TM sharing, cloud computing marketplaces seem an entire different thing. It seems that changes are happening to translators rather than with translators (Gouadec, 2007: 279). Automation of the profession and collaborative approaches are rather seen as rather threatening as we could easily conclude from the opinions expressed in figure 8. The majority of respondents show a huge concern about crowdsourcing translation, not merely for professional instability that it can lead to, but also in terms of quality. Crowdsourcing translation is qualified as a threat to the profession, which diminishes the quality of the outputs, and devaluates professional work. On the other hand, translators do not seem to acknowledge the benefits of using MT combined with crowdsourcing translation and do not even consider the possibility of reliable MT outputs, forgetting the importance that revision plays in translators' professional work. They also

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seem to neglect the relevance of crowdsourced translation in the dissemination of information in several languages, therefore increasing the awareness of the importance of the translators' work.

The translation industry is on the cusp of a radical change. Garcia has pointed out that frontiers between cloud marketplaces and traditional LSP vendors are merging, creating what he calls a "fuzzy profession". This change is happening right now, but the full realization of what it means and entails, and a complete awareness of what it might bring to profession, is still to be understood. Portuguese professional translators feel that they are at the verge of something new; but the intuition has not yet become a real understanding of the market's recent transformations. Researchers, Academia and professional translators are now, more than ever, challenged to cooperate and work together to address the new demands of the translation industry. An ongoing work and cooperation between researchers and professionals is mandatory in order to prepare the next generation of translators to the challenges that lie ahead, but also to identify the competences and skills that the market demands.

Jap Van der Meer, founder and director of TAUS, defines the next decade as the age for convergence (Van der Meer, 2013), where translation will be a utility just as electricity or water. We subscribe his own words when he declares:

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> We are entering the Convergence era: translation will be a utility embedded in every app, device, sign board and screen. Businesses will prosper by finding new customers in new markets. Governments and citizens will connect and communicate easily. Consumers will become world-wise, talking to everyone everywhere as if language barriers never existed. Don't get me wrong. It will not be perfect, but it will open doors and break down barriers. And it will give a boost to the translation industry, which will be chartered to constantly improve the technology and fill the gaps in global communications.

The translational activity is changing rapidly, trying to cope with the new demands of the market. The training of specialized translators should be facing these new challenges, reinventing the profession, preparing translators for current and future market needs. Automation is an irreversible process. Specialized courses in translation have already integrated and mastered CAT and Localization tools. Now, Universities and CPD Courses must consider the adoption of new methods and strategies to prepare students and trainees to improve skills related to become what some researchers define as the "professional monolingual translator" (Koenh, 2010), specialized in technical writing, namely in the use of controlled languages, and in text revising and editing when using MT. Modern pedagogical approaches are needed and should be more than ever considered by Universities and CPD courses. Collaborative models and immersion in real or simulated working environments where already

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integrated in most of the translation programs. The training for the localization industry has already induced a collaborative approach to the translators training, and teaching methodologies have adapted to this new paradigm. Collaborative on-line translation and crowdsourcing communities – CP3 - may become interesting platforms where teaching can really "mirror" the translator profession. It is probably the ideal way to introduce future translators to real professional working conditions, exposing students to different market models, paid and unpaid versions, reflecting upon the consequences to the profession of this new revolution in the translation industry, following CAT tools, Localization models and Machine Translation and Post-Editing. New pedagogical strategies should consist in the adoption of volunteer translation work for students (TED talks or Translators without borders) or working with crowd marketplaces, such as Unbabel or Gengo.

In conclusion, we think that this survey to Portuguese translators has modestly shown that Universities and researchers need to be at the core of this revolution, preparing students to become more aware of the challenges they will meet, adapting and reconverting and old profession to the new demands that lie ahead.

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